August 5, 1996

MEMORANDUM

TO: Orville D. Green, Assistant Administrator
Permits and Enforcement

FROM: Brian R. Monson, Chief
Operating Permits Bureau

SUBJECT: Issuance of Tier II Operating Permit (#017-00036) to Ceda-Pine Veneer, Incorporated, Samuels, Idaho

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the Control of Air Pollution in Idaho) for issuing Operating Permits.

PROJECT DESCRIPTION

This project is for an Operating Permit for Ceda-Pine Veneer, Inc., Samuels, Idaho. Emission point sources existing at the facility are as follows: One (1) hog fuel boiler; one (1) standby diesel boiler; one (1) deck saw; one (1) ring debarker; two (2) rosser head debarkers; one (1) chop saw; two (2) chippers; one (1) screen; one (1) Falcon hog; two (2) steam chambers; one (1) steam dryer; one (1) knife hog; two (2) chipper bins; and an indoor sawmill, slicer, and veneer clip/grade. Fugitive emission sources found at the facility are as follows: solid material storage piles, and paved and unpaved roads.

SUMMARY OF EVENTS

On April 7, 1995, the Division of Environmental Quality (DEQ) received the facility's Tier II Operating Permit application forms. On August 18, 1995, the application was determined administratively complete. On March 25, 1996, a proposed Tier II Operating Permit was issued for public comment. A public comment period was then held from April 10, 1996, to May 10, 1996.

On May 13, 1996, DEQ received comments about the content of the proposed Operating Permit. These comments were addressed by DEQ in the response package.

RECOMMENDATIONS

Based on the review of the Operating Permit application and on applicable state and federal regulations concerning the permitting of air pollution sources, the Bureau staff recommends that Ceda-Pine Veneer, Inc., in Samuels, Idaho, be issued a Tier II Operating Permit for the sources that exist at the facility. Staff also recommends that the facility be notified of the Tier II permit fee requirement in writing. This fee will be applicable upon issuance of the permit.

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cc: G. Burr, NIRO
Source File
COF

August 5, 1996

MEMORANDUM

TO: Brian R. Monson, Chief
Operating Permits Bureau
Permits and Enforcement

FROM: Yihong H. Chen, Air Quality Engineer YC
Operating Permits Bureau
Bill Rogers, Air Quality Engineer BR
Construction Permits Bureau

THROUGH: Susan J. Richards, Air Quality Permits Manager
Operating Permits Bureau

SUBJECT: Technical Analysis for Tier II Operating Permit (#017-00036)
Ceda-Pine Veneer, Inc., Samuels, Idaho (Part I - Non-Confidential)

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the Control of Air Pollution in Idaho) for issuing Operating Permits.

FACILITY DESCRIPTION

Ceda-Pine Veneer, Inc., is located in Samuels, Idaho. The facility produces softwood veneer and green dimensional lumber. Logs are stored and debarked on site. The removed bark is recycled as fuel for the boiler. An assortment of saws cut the logs into cants and dimension lumber. The cants are heated in the steam chambers and further processed into veneer. The veneer is dried and stored on site. The dimensional lumber is sold as a rough green product. By-products such as wood chips and sawdust are sold as products to outside vendors. Process steam is provided by a wood waste boiler and a standby diesel boiler.

Bark is hogged and conveyed to the fuel house. The trim ends from the sawmill are chipped and transferred to the chip surge bin. Sawdust from the chipping passes through the fines blower cyclone and is transferred to a sawdust pile. Chips generated in the veneer production process are transfer to a chip bin. Veneer trash is hogged and transferred to the fuel house. Sawdust generated from the veneer process goes through a globe saw cyclone and is transferred to the fuel house. Wood chips and sawdust are sold as products to outside vendors.

Emission sources at the facility include fuel burning equipment such as boilers; process and manufacturing operations such as the sawmill, steam chambers, veneer dryer, cyclones; storage tanks; material transport, handling, and storage; and fugitive road dust.

PROJECT DESCRIPTION

This project is for an Operating Permit (OP) for the following existing point and fugitive emission sources.

Emission Units:

(1) Hog Fuel Boiler - with a maximum rated capacity of 20,000 lb steam per hour. Hogged wood waste (bark, sawdust, and veneer trim ends and trash) generated on-site is used as fuel. The bolier furnance contains two (2) underfeed stokers. The boiler was constructed in 1988. The facility was issued Permit to Construct (PTC) #0240-0036. Because construction of this emissions unit commenced prior to June 9, 1989, the effective NSPS date, this emissions unit is not subject to federal regulation in accordance with 40 CFR 60, Subpart Dc. The emissions from the Hog Fuel boiler are controlled by a Hurst Model HBC 600/300-MC multiclone.

Equipment Specifications:

Manufacturer:	Hurst
Model:	H4-4040-300
Max. Rated Capacity:	20,000 lbs steam/hr
Fuel:	Hogged wood waste

Stack Design Specifications:

Height:	40 feet
Exit Diameter:	2.1 feet
Exit Gas Flow Rate:	15,265 acfm
Exit Temperature:	325°F

(2) Standby Diesel Boiler - with a maximum rated capacity of 10,000 pound steam per hour. The boiler was constructed in August 1976. This emissions unit is not subject to federal regulation in accordance with 40 CFR 60, Subpart Dc because of its construction date.

Equipment Specifications:

Manufacturer:	York Shipley
Model:	300 H/P
Design Capacity:	10,000 lbs/hr
Fuel:	#1 or #2 fuel oil

Stack Design Specifications:

Height:	28 feet
Exit Diameter:	1.5 feet
Exit Gas Flow Rate:	1,500 acfm
Exit Temperature:	415°F

(3) P1 Deck Saw

(4) P2 Ring Debarker

(5) P3 Chop Saw

(6) P4 Rosser Head Debarker

(7) P5 Chop Saw

(8) P7 Chipper #1

(9) P8 Chipper #2

(10) P9 Screen Out

(11) P10 Fines Blower Cyclone

(12) P11 Falcon Hog

(13) P12 & P13 Steam Chamber #1 & #2

(14) P15 Steam Dryer

(15) P17 Knife Hog

(16) P18 Globe Saw Cyclone

(17) ST1, ST7 Bins - Bins for chips.

(18) Sawmill, Slicer, and Clip/grade.

Fugitive Sources:

(1) Storage Piles.

(2) Paved and Unpaved Roads.

SUMMARY OF EVENTS

On April 7, 1995, DEQ received an application for a Tier II OP. On June 9, 1995, the application was determined incomplete. On July 17, 1995, information was received addressing the incompleteness determination. The application was determined administratively complete on August 18, 1995. On August 21, 1995, the revised Section 1 of the General Information portion of the Tier II Application was received.

On October 11, 1995, DEQ Air Quality Engineers, Bill Rogers and Yihong Chen met with the facility's Consultant, Gretchen Hoy, to discussed some problems associated with emission calculations, and the material balance for the process. The issues raised in the meeting were significant in regard to the issuance of a Tier II OP. The letter requested that the facility voluntarily grant DEQ a sixty (60) day extension to the mandated timeline. On October 26, 1995, DEQ received the sixty (60) day extension from

the facility. However, all of the requested information was not received by DEQ within the sixty (60) day timeline. On December 15, 1995, the facility granted DEQ another forty-five (45) day extension to provide the requested information to DEQ. DEQ accepted the new extension and requested that the information be submitted by January 3, 1996. On January 8, 1996, DEQ received the requested information. On January 25, 1996, the facility granted DEQ an additional fifteen (15) day extension to resolve the confidentiality issue. On January 26, 1996, DEQ accepted the extension and stated that if the confidential issue is resolved within the time frame, the proposed Tier II permit will be issued on February 14, 1996. On January 26, 1996, DEQ sent a letter explaining Idaho code and Rules regarding confidentiality and requested the facility's response by February 5, 1996.

On March 25, 1996, a proposed Tier II OP was issued for public comment. A public comment period was then held from April 10, 1996, to May 10, 1996. On May 13, 1996, DEQ received comments about the content of the proposed OP. These comments were addressed by DEQ in the response package.

DISCUSSION

1. Emission Estimates

Emission estimates were provided by the facility and can be seen in the April 7, 1995, application and in the July 17, 1995, amended application submittal. DEQ has estimated the PM, PM-10, SO_2, NO_x, CO, and the VOC (Volatile Organic Compound) emissions based on facility's submittal except for fugitive road dust emissions and storage tanks emissions.

The emissions from Standby Diesel Boiler were calculated based on facility's submittal and AP-42 Section 1.3 (Fuel Oil Combustion, 1/95). The emission factors (EFs) used to estimate the emissions from manufacturing operations, and material handling were taken from AP-42 Section 10.3 (Plywood Veneer and layout Operations, 2/80), Section 10.4 (Woodworking Waste Collection Operations, 2/80). For the steam chamber, EFs were taken from application reference 17. For storage piles, EFs were taken from EPA AIRS(3/90) SCC 3-07-008-03. For screening and material transfer, due to lack of data, AP-42 Section 11.19.2 (Crushed Stone Processing, 1/95) and Section 13.2.4 (Aggregate Handling and Storage Piles, 1/95) were used.

The facility has an existing Permit to Construction (#0240-0036) for its Hog Fuel Boiler. The emission limits for TSP, PM-10, CO, NO_x, SO_2, and VOC are 5.4 lb/hr and 11.2 ton/yr, 4.9 lb/hr and 10.2 tons/hr, 13.7 lb/hr and 28.5 tons/hr, 2.3 lb/hr and 4.9 tons/yr, 0.5 lb/hr and 1.1 tons/yr, and 5.8 lb/hr and 12.1 tons/hr, respectively. In order to ensure the emissions of hog fuel boiler within the limits, the practical enforceable limits are given in the OP permit as follows: the average monthly fuel consumption shall not exceed 2.8 tons/hr x 24 hr/day x 30 day/month = 2,016 ton/month; and annually fuel consumption rate shall not exceed 2.8 tons/hr x 24 hr/day x 7 days/wk x 50 wk/yr/1.2 = 19,600 tons/yr.

The facility source tested the Hog Fuel Boiler in July 1990 at its design steam rate of 20,000 lb steam/hr. The grain loading was 0.07 gr/dscf. The heating value and moisture content of hog fuel used for the boiler were 3,857 Btu/lb and 56.2%, respectively based on recent fuel analysis (February 1995). Comparing with the heating value of Bark (4,500 Btu/lb) and wood (5,200 Btu/lb), the fuel used for the Hog Fuel Boiler is relatively low. In order to ensure the grain loading of the boiler within the standard, the enforceable steam flow rate is established in the OP permit, which is 20,000 lb steam/hr x (3,857 Btu/lb / (5,200 Btu/lb + 4,500 Btu/lb)/2 = 16,000 lb steam/hr. 5,200 Btu/lb and 4,500 Btu/lb are the heating values of wood and bark taken from AP-42 Appendix A-5, 1/95.

The NO_x emission rate is higher than its permit limit based on its fuel analysis and updated AP-42 Section 1.6 (Wood Waste Combustion In Boilers, 1/95), even though the boiler has not been changed. SCREEN modeling has been run and the adjusted NO_x permit limit has been given.

Within the life time of the OP permit, one source test is required for the following reasons: 1) the facility failed its first start-up source test; 2) barely passed the second source test by adding a fly ash separator screen; 3) it has been six years since the last test, the emissions may change due to wear and tear of equipment; 4) the heating value of the fuel used in boiler was relatively low based on recent fuel analysis (February 1995). If the facility fails the test a follow-up source test(s) shall be performed to demonstrate compliance.

PM-10 is the pollutant that triggers major source status for the facility according to DEQ's policy (April 4, 1996). No design capacities of wood process units were submitted. The proposed maximum process rates were used to estimate the PTE, which is above 100 tons per year (T/yr). The PTE of PM-10 is the sum of PM-10 from all the emission sources except storage piles and roads. The analysis can be found in Appendix A.

The applicant chose to net out of Tier I permitting by limiting the potential to emit of PM-10 to less than 100 T/yr. Besides hog fuel boiler mentioned above, the applicant accepted enforceable limits as follows: 1) Standby Diesel Boiler: #1 or #2 fuel oil usage shall not exceed 777,504 gallons per year, based on a rolling annual summation; 2) The maximum log processed shall not exceed 12.6 million board feet of log per year, based on a rolling year summation; 3) the maximum amount of veneer dried shall not exceed 6,640 thousand square feet per rolling year (at its equivalent 3/8" thickness); 4) the sawmill, veneer slicing, and clip/grading shall be operated in the building. The analysis of permit allowed throughput and limits can be found in Appendix B.

2. Modeling

The EPA approved SCREEN2 model was run in 1989 when PTC #0240-0036 for the Hog Fuel Boiler was issued. The EPA approved SCREEN3 model has been run only for NO_x this time due to the change of permit limits. The following modeling methodology was used to predict the impact the boiler may have on the ambient air.

The NO_x emission rate from the boiler stack was input into the SCREEN3 dispersion model as grams per second (g/s). Building downwash of the boiler building, sawmill building, veneer building, and steam chamber building were considered. The annual background concentration of NO_x is 40 ug/m^3 in Bonner County. The model output gave the maximum hourly NO_x concentration. It was converted to an annual concentration by multiplying a conversion factor of 0.08. The modeling results predicted that by changing the permit limit to 45.36 T/yr will not violate the NAAQs, which is 100 ug/m^3, annual average. The modeling input and results are shown in Appendix C.

3. Area Classification

Ceda-Pine Veneer, Inc., is located in Samuels, Bonner County, Idaho, as shown in Figure 1. This area is located in AQCR 63. The area is classified as attainment or unclassifiable for all federal and state criteria air pollutants (i.e., PM, PM-10, CO, NO_x, and SO_2).

4. Facility Classification

The facility is not a designated facility as defined in IDAPA 16.01.01.006.25. The facility is classified as an A2 source because potential emissions are greater than 100 T/yr but actual emissions are less than 100 T/yr.

5. Regulatory Review

This operating permit is subject to the following permitting requirements:

a.	IDAPA 16.01.01.401	Tier II Operating Permit;
b.	IDAPA 16.01.01.403	Permit Requirements for Tier II Sources;
c.	IDAPA 16.01.01.404.01(c)	Opportunity for Public Comment;
d.	IDAPA 16.01.01.404.04	Authority to Revise Operating Permits;
e.	IDAPA 16.01.01.406	Obligation to Comply;
f.	IDAPA 16.01.01.470	Permit Application Fees for Tier II Permits;
g.	IDAPA 16.01.01.625	Visible Emission Limitation;
h.	IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust;
i.	IDAPA 16.01.01.675	Fuel Burning Equipment -- Particulate Matter;
j.	IDAPA 16.01.01.728	Distillate Fuel Oil; and
h.	40 CFR 60 Subpart Dc	Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

FEES

Fees apply to this facility in accordance with IDAPA 16.01.01.470. The facility is subject to permit application fees for Tier II permits of five hundred dollars ($500.00). IDAPA 16.01.01.470 became effective on March 7, 1995.

AIRS

AIRS data entry sheet can be found in Appendix D.

RECOMMENDATIONS

Based on the review of the Operating Permit application and on all applicable state and federal rules and regulations concerning the permitting of air pollution sources, the Bureau staff recommends that Ceda-Pine Veneer, Inc., in Samuels be issued a Tier II Operating Permit for the sources that exist at the facility. Staff also recommends that the facility be notified of the Tier II permit fee requirement in writing. This fee will be applicable upon issuance of the permit.

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cc: G. Burr, NIRO
Source File
COF

APPENDIX A

Table A-1 Date: 21-May-96

Ceda Pine Potential to Emit (pseudo-PTE) emissions summary

Based on its given maximum rate rather than design capacity(NA)

Source	PM		PM-10	
	lb/hr	ton/yr	lb/hr	ton/yr
Hogged fuel boiler	5.4	11.2	4.9	10.2
Standby diesel boi	0.18	0.78	0.18	0.78
Process and manu	99.19	341.73	62.32	219.98
Material handling	46.20	202.34	44.67	195.66
Storage tank	---	---	---	---
total	150.96	556.05	112.07	426.62

Table A-2

Date: 21-May-96

Ceap Pine Veneer, Inc. Engineer: Yihong

Hogged Fuel Boiler and Standby Diesel Boiler Technical Analysis

Estimation of maximum allowable hourly and annually fuel combustion rate

File name: 10BOLPTE.wk1

Boiler conversion factors (AP-42,1/95, A-29)	Remark
1 lb steam/hr = 1.7E+03 BTU/hr	1.4 - 1.7E+03 but/hr is needed to generate 1 lb steam/hr. Using 1.7E+03 Btu/hr is conservative

Note: boiler efficiency has been considered here already

1. HOGGED FUEL BOILER

1.1 Fuel data (Per application,tested 2/95, received 4/7/95)

Heating value(as received)	3,857	btu/lb
Moisture content	56.19	%
Nitrogen content	0.1	%

1.2 Boiler design capacity

20,000 lb steam/hr= 34 MM BTU/hr

(1.7E+03 BUT/hr)/(1 lb steam/hr)*(20,000 lb steam/hr)/1e+06=34 MM BTU/hr

1.3 Permited limits (# 0240-0036)

	lb/hr	tons/yr
PM	5.4	11.2
PM-10	4.9	10.2
CO	13.7	28.5
NOx	2.3	4.9
SO2	0.5	1.1
VOC	5.8	12.1

1.4 Emission factors (EFs) with multicone controlled — per applicaiton (4/7/95) and test report in source file, tested 7/90

Fuel data (AP-42, 1/95, A-5) — No lbs/hr fuel input data were recored even thought it is the requirement of permit #0240-0036 sec. 3.1. Therefore, the average fuel data from AP-42 are used to estimate EFs.

Heating value =	5,200	Btu/lb	
Moisture content	50	%	
PM:			
Emission rate(PM,avg)=	3.9	lb/hr	source test data
Emission Factor(PM,EF)=	1.19	lb/ton fuel used	EF, PM=3.9(lb/hr)/34(mmbut/hr)*4,500(but/lb)*2000(lb/ton)/1E+6(btu/mmbtu)
CO:			
Emission rate(CO,avg)=	5.3	lb/hr	source test data
Emission Factor(CO,EF)=	1.62	lb/ton fuel used	EF, PM=5.3(lb/hr)/34(mmbut/hr)*4,500(but/lb)*2000(lb/ton)/1E+6(btu/mmbtu)
NOx(EF=:	3.6	lb/ton fuel used	AP-42, 1/95 T1.6-2 & foot note "c"
SO2(EF)=	0.075	lb/ton fuel used	AP-42, 1/95 T1.6-2
VOC(EF)=	0.22	lb/ton fuel used	

1.5 Combustion rate (ton/hr)

Max. hourly =	3	ton/hr	Per application combustion rate, received 4/7/95 and source test
Max. annually =	26208	ton/yr	per application, 7day*24hr*52wk
Nor. annually =	21840	ton/yr	Nor = Max./1.2
Max. hourly =	3.27	ton/hr	per assumed fuel data and source test
Max. annually =	27461.54	ton/yr	t/h=20,000(lb steam/hr)*(1.7e+3(btu/lb steam)/4,500(btu/lb)/2000(lb/ton)
Nor. annually =	22884.62	ton/yr	Nor = Max./1.2

Table A-2 continue

1.6 Emissions

	lb/hr	t/y,max.	t/y,nor.	Per application
PM	3.58	15.63	13.03	emission (lb/hr) = EF(lb/ton fuel)*(ton fuel/hr)
PM-10	3.58	15.63	13.03	emission (t/y) = EF(lb/ton fuel)*(ton fuel/yr)/2000(lb/ton)
CO	4.86	21.24	17.70	Nor = Max./1.2
NOx	10.80	47.17	39.31	
SO2	0.23	0.98	0.82	
VOC	0.66	2.88	2.40	

	lb/hr	t/y,max.	t/y,nor.	per assumption
PM	3.90	16.38	13.65	emission (lb/hr) = EF(lb/ton fuel)*(ton fuel/hr)
PM-10	3.90	16.38	13.65	emission (t/y) = EF(lb/ton fuel)*(ton fuel/yr)/2000(lb/ton)
CO	5.30	22.26	18.55	Nor = Max./1.2
NOx	11.77	49.43	41.19	
SO2	0.25	1.03	0.86	
VOC	0.72	3.02	2.52	

2. STANDBY DIESEL BOILER

2.1 Fuel data

Heating value =	140,000	btu/gal	AP-42, 1/95, A-5
Sulfur content =	0.5	%	IDAPA 16.01.01.728

2.2 Boiler design capacity

10,000 lb steam/hr=	17	MM BTU/hr	(1.7E+03 BUT/hr)/(1 lb steam/hr)*(10,000 lb steam/hr)/1e+06=17 MM BTU/hr

2.3 Emission factors (EFs)

	(lb/10^3gal)	
PM	2	AP-42, 1/95, T1.3-2
PM10	2	
CO	5	
NOx	20	
SO2	72	
VOC	0.2	

*2.4 Combustion rate

*Max. hourly =	89	gal/hr	Per application combustion rate, received 4/7/95
Max. annually =	777504	gal/yr	Max. gal/yr = Max. 89 (gal/hr)*7day*24hr*52 weeks
*Nor. annually =	647920	ton/yr	Nor = Max./1.2

2.5 Emissions

	lb/hr	t/y,max.	t/y,nor.	emission (lb/hr) = EF(lb/1e+3 gal)*(gal/hr)/1000(gal/1e+3 gal)
PM	0.18	0.78	0.65	emission (t/y) = EF(lb/1E+3)*(gal/yr)/2000(lb/ton)/1000 (gal/1e+3 gal)
PM-10	0.18	0.78	0.65	Nor = Max./1.2
CO	0.45	1.94	1.62	
NOx	1.78	7.78	6.48	
SO2	6.41	27.99	23.33	
VOC	0.02	0.08	0.06	

Table A-3 Date: 21-May-96

Ceda Pine Veneer, Inc.
ESTIMATING POTENTIAL TO EMIT (PTE, PM-10) FROM PROCESS AND MANUFACTURING OPERATIONS

Note: Unless specified, all data taken from application submittal.

1, ASSUMPTIONS:

Moisture content of log:	50%	(per app.)
Moisture content of veneer:	15%	(assumption)
Max. = 1.2*Nor.		(per app.)

2. CONVERSION FACTORS:

1 ton of log = 1 Bon Dry Ton(BDT) of log/(1-moisture content percetage of log)
1 MBF (thousand board feet) = 4.8 tons of log (Pinehurst PM10 SIP,2/5/92,B-45)

3, PM EMISSIONS (E):

3.1 OUTDOOR ACTIVITIES

Production throughput = 12.6 MMBF of log/yr (per app.)

Process	Hourly Production Max. Rate	unit	Operating hour	Production hourly	Rate Max. annually	Emission Factors	unit	Emissions hourly	Annually annually	Remark
			hr	ton/hr	ton/yr			lb/hr	ton/yr	
P1 Deck saw	15.75	MBF	1752	75.60	132451	0.2	lb/ton	15.12	13.25	(MBF/hr)=12.6 (MMBF of log/yr)/800(hr/yr)*1000 operating hour = 800 hr/4000 hr * 8760hr app. 7/19/95 and 1/8/96. EPA 450/4-90-003, p143 (MBF/hr)= (MBF/yr)/operating hour(OP HR)(hr/yr) E(T/yr) = E(lb/hr)*OP HR(hr/yr)/2000(lb/T)
p2 Ring debarker	3.15	MBF	8760	15.12	132451	0.011	lb/ton	0.17	0.73	(MBF/hr)=12.6 (MMBF of log/yr)/4000(hr/yr)*1000
p3 Chop saw #1	3.15	MBF	8760	15.12	132451	0.2	lb/ton	3.02	13.25	same as p1&p2 Deck saw
p4 Rosser head debarker	1.20	MBF	8760	5.76	50458	0.011	lb/ton	0.06	0.28	max. rate app.7/19/95. AP-42,T10.3-1(2/80)
p5 Chop saw #2	7.05	BDT	8760	14.11	123600	0.2	lb/ton	2.82	12.36	max. rate app.7/19/95. AP-42,T10.3-1(2/80)
p7 Chipper #1	7.22	BDT*	8760	14.44	126491	0.1	lb/ton	1.44	6.32	app. 7/19/95. AP-42,T10.3-1(2/80) EFs for sawing with 50% off used here, Because Chipper is kind of partial closure
p8 Chipper #2	0.14	BDT	8760	0.29	2523	0.1	lb/ton	0.03	0.13	same as Chipper #1
p9 Screen out	7.22	BDT*	8760	14.44	126491	0.071	lb/ton	1.03	4.49	app.7/19/95. AP-42,T11.19.2-2(1/95)
p11 Falcon hog	2.12	BDT	8760	4.23	37055	0.1	lb/ton	0.42	1.85	same as Chipper #1
p17 Knife hog(Veneer)	0.14	BDT	8760	0.16	1426	0.1	lb/ton	0.02	0.07	same as Chipper #1
SUM								24.13	52.72	

3.2 INDOOR ACTIVITIES

Assume indoor control efficiency = 0%

Process	Hourly Production Max. Rate	unit	Operating hour	Production hourly	Rate Max. annually	Emission Factors	unit	Emissions hourly	Annually annually	Remark
			hr	ton/hr	ton/yr			lb/hr	ton/yr	
P6 Sawmill	7.05	BDT	8760	14.11	123600	0.2	lb/ton	25.40	111.24	app. AP-42,T10.3-1(2/80) material balance: rate p5=p6 Assume: wood was sa 9 times/log E(lb/hr) = EF (lb/T)* T of log processed/ /hr*(1-contl efficiency)*cut times
p14 Slicer								negligible		Steam was used during slicing and it is an indoor activety. Therefore, the emissin from it is negligible
p16 clip/grade			8760	2.60	22810	0.2	lb/ton	0.52	2.28	material balance:p15(BDT)=p16(BDT) P16=P15*(1-50%)/(1-15%)
SUM								25.92	113.52	

3.3 CYCLONES

ACFM: actually cubit feet per minute.

Process	Hourly Production Max. Rate	unit	Operating hour	Stack exit Gas flow r acfm	Stack exit temp.	Emission Factors	unit	Emissions hourly	Annually annually	Remark
			hr					lb/hr	ton/yr	
p10 Fine Blower Cyclone	1.2	BDT	8760	2300	ambient	0.03	gr/scf	0.59	2.59	app.4/7/95, 7/19/95. AP-42,T10.4.1(2/80) assume acf=scf. E(lb/hr) = 0.03(gr/scf)/7000(gr/lb)* (scf/min)*60(min/hr)
P18 Glowbe saw cyclone	NA	BDT	8760	1000	ambient	0.03	gr/scf	0.26	1.13	app.4/7/95. 7/19/95. AP-42,T10.4.1(2/80)
SUM								0.85	3.72	

Table A-3

continue

3.4 STEAM CHAMBERS AND THE STEAM DRYER

Convertion factors

1 MBF, thousand board feet = 1.75 tons of rought green lumber (Pinehurst PM10 SIP,2/5/92,B-45)

1 MBF, thousand board feet = 8/3 MSF, thousand 3/8" square feet

Process	Hourly Production Max. Rate	unit	Operating hour hr	Production Rate Max. hourly ton/hr	annually ton/yr	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	
P12 Steam chamber #1	1.26	MBF	8760	2.21	19389	1.59	lb/MBF	2.01	8.81	app.4/7/95, ref. 17 E(lb/hr) =(MBF/hr)*EF(lb/MBF)
P13 Steam chamber #2	1.26	MBF	8760	2.21	19389	1.59	lb/MBF	2.01	8.81	same as steam chamber #1
p15 Steam dryer	0.95	MSF	8760			7.8	lb/MSF	7.40	32.41	app.7/19/95, AP-42,T10.3-2(2/80)
	2.53	MBF	8760	4.43	38778					0.8 lb/MSF is used here.
SUM								11.42	50.02	it is the most conservitive data

PM emissions from process and manufacturing operation are:

Total(PM-10) =	lb/hr	Ton/yr
	62.32	219.98

4. VOC EMISSIONS

4.1 STEAM CHAMBERS AND THE STEAM DRYER

Convertion factors

1 MBF, thousand board feet = 1.75 tons of rought green lumber (Pinehurst PM10 SIP,2/5/92,B-45)

1 MBF, thousand board feet = 8/3 MSF, thousand 3/8" square feet

Process	Hourly Production Max. Rate	unit	Operating hour hr	Production Rate Max. hourly ton/hr	annually ton/yr	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	
P12 Steam chamber #1	1.26	MBF	8760	2.21	19389	1.67	lb/MBF	2.11	9.25	app.4/7/95, ref. 17 E(lb/hr)=(MBF/hr)*EF(lb/MBF)
P13 Steam chamber #2	1.26	MBF	8760	2.21	19389	1.67	lb/MBF	2.11	9.25	same as steam chamber #1
p15 Steam dryer	0.95	MSF	8760			0.8	lb/MSF	0.76	3.32	app.7/19/95, AP-42,T10.3-2(2/80)
	2.53	MBF	8760	4.43	38778					0.8 lb/MSF is used here.
SUM								4.98	21.83	it is the most conservitive data

VOC emissions from process and manufacturing operation are:

Total(VOC) =	lb/hr	Ton/yr
	4.98	21.83

Ceda Pine Veneer, Inc. Table A-4 Date: 21-May-96

POTENTIAL TO EMIT ESTIMATION FOR SOLID MATERIAL TRANSPORT, HANDLING, AND STORAGE

ASSUMPTION

Moisture content of green wood = 50%

Moisture content of dry wood = 15%

PM EMISSIONS

1. STORAGE PILES

Process	Hourly production Max. Rate	unit	Operating hour	Production Rate hourly	annually	EFs PM-10	unit	Emissions PM-10 hourly	annually	Remark
			hr	ton/hr	ton/yr			lb/hr	ton/yr	app. 4/7/95, 7/19/95, AP-42,T8.19.1-1(9/91) EPA AIR(3/90) p.143 3-07-008-03 E(lb/hr) = E(T/yr)*2000(lb/T)/op hr(hr/yr) assume:EF(hog fuel) 80% EF of sawdust
*ST2 Sawdust pile	1.09	BDT	8760	2.18	19097	0.36	lb/ton	0.78	3.44	sawdust
*ST3 Fuel house(hog fuel)	2.56	BDT	8760	5.12	44851	0.288	lb/ton	0.74	3.23	Half inclosed. assume cntl e 50%
*ST4 Storage pile(hog fuel)	7.5	BDT	8760	15.00	131400	0.288	lb/ton	4.32	18.92	
*ST5 Bin bunker no bark (dry hog fuel+sawdust)	0.29	BDT	8760	0.34	2989	0.288	lb/ton	0.10	0.43	
*ST6 Ash bunker	0.29	BDT	8760	0.29	2540	0.288	lb/ton	0.08	0.37	
* inconsistency of two app. (7/17/95 & 4/7/95)										
SUM								6.02	26.38	

2. BINS

Process	Hourly Production Max. Rate	unit	Operating hour	Production Rate hourly	annually	EFs	unit	Emissions (PM10) hourly	annually	
			hr	ton/hr	ton/yr			lb/hr	ton/yr	app.4/7/95, 7/19/95, AP-42,T10.4-3(7/79)
ST1 Chip surge bin	7.22	BDT	8760	14.44	126491	1	lb/ton	14.44	63.25	bin vent. material balance p7=st1 EF(PM) is used as EF(PM-10).
						2	lb/ton	28.88	126.49	bin loadout
ST7 Chip bin	0.15	BDT	8760	0.18	1546	1	lb/ton	0.18	0.77	bin vent
						2	lb/ton	0.35	1.55	bin loadout
SUM								43.85	192.06	

3. TRANSFER/CONVEYOR

Wind speed =	9	mph	(per application 7/19/95)
Moisture content =	50%		(per application 7/19/95)
k(PM) =	1		(AP-42, 1/95, 13.2.4)
K (<30 um) =	0.74		(AP-42, 1/95, 13.2.4)
K (<10 um) =	0.35		(AP-42, 1/95, 13.2.4)
Production througput =	12.6	MMBF of log/yr	

Process	Hourly Production Max. Rate	unit	Operating hour	Production Rate hourly	annually	Drop points	EFs	unit	Emissions (PM10) hourly	annually	
			hr	ton/hr	ton/yr				lb/hr	ton/yr	
TR1 infeed deck	15.75	MBF	1752	75.60	132451	NA	0.02	lb/ton	0.00	0.00	(MBF/hr)=12.6(MMBF of log/yr)/800(hr 1000 app.7/19/95,1/8/96, AP-42,T10.3-1(2/8 (MBF/hr)= (MBF/yr)/op hr(hr/yr) EF(lb/ton) = k*0.0032*(U/5)^(1.3)/(M/2 AP-42 13.2.4 eq 1.
TR2 chain conveyor	0.015	BDT	8760	0.03	263	1	0.02	lb/ton	0.00	0.00	E(lb/hr)=EF*material handled(lb/hr)*
TR3 2 vib.2 belt conveyors	2.115	BDT	8760	4.23	37055	6	0.02	lb/ton	0.43	1.86	drop points
TR4 2 chain conveyor	2.115	BDT	8760	4.23	37055	1	0.02	lb/ton	0.07	0.31	
TR7 velt conveyors	0.233	BDT	8760	0.47	4079	1	0.02	lb/ton	0.01	0.03	
TR5 front end loader	1.875	BDT	8760	3.75	32850	2	0.02	lb/ton	0.13	0.55	app.7/19/95 and 4/7/95.
TR6 front end loader	1.089	BDT	8760	2.18	19086	2	0.02	lb/ton	0.07	0.32	transfer point NA. assume: 2 point
TR 8 front end bucket	1.179	BDT	8760	2.36	20656	2	0.02	lb/ton	0.08	0.35	transfer point NA. assume: 2 point
TR 9 front end bucket	0.600	BDT	8760	1.20	10512	2	0.02	lb/ton	0.04	0.18	transfer point NA. assume: 2 point
SUM									0.82	3.60	

	PM-10	
without count pile	lb/hr	t/y
	i35+j62	j35+k62
TOTAL	44.67	195.66

APPENDIX B

Table B-1

Ceda Pine emissions summary

Date: 21-May-9

Source	PM		PM10		CO		NOx		SO2		VOC	
	lb/hr	t/y	lb/hr	t/y	lb/hr	t/y	lb/hr	t/y	lb/hr	t/y	lb/hr	t/y
Hogged fuel boile	5.40	11.20	4.90	10.20	13.70	28.50	5.72	25.00	0.50	0.95	5.80	12.10
Standby diesel bo	0.18	0.78	0.18	0.78	0.45	1.94	1.78	7.78	6.41	27.99	0.02	0.08
process and man	51.73	71.51	31.84	50.01	—	—	—	—	—	—	14.40	60.47
material handling	46.20	47.76	26.84	27.51	—	—	—	—	—	—	—	—
storage tank	—	—	—	—	—	—	—	—	—	—	0.09	0.40
total	103.50	131.24	63.76	88.50	14.15	30.44	7.50	32.78	6.91	28.94	20.31	73.05

Table B-2 Date: 21-May-96

Ceap Pine Veneer, Inc.
Hogged Fuel Boiler and Standby Diesel Boiler Technical Analysis
permitted maximum allowable hourly and annually fuel combustion rate

Boiler conversion factors (AP-42,1/95, A-29)			Remark
1 lb steam/hr =	1.7E+03	BTU/hr	1.4 ~ 1.7E+03 but/hr, using 1.7E+03 is conservitive

Note: boiler efficiency has been considered here already

1. HOGGED FUEL BOILER

1.1 Fuel data (Per application,tested 2/95, received 4/7/95)

Heating value(as received)	3,857	btu/lb
Moisture content	56.19	%
Nitrogen content	0.1	%

1.2 Boiler design capacity

20,000 lb steam/hr= 34 MM BTU/hr

(1.7E+03 BUT/hr)/(1 lb steam/hr)*(20,000 lb steam/hr)/1e+06=34 MM BTU/hr

1.3 Permited limits (# 0240-0036)

	lb/hr	tons/yr
PM	5.4	11.2
PM-10	4.9	10.2
CO	13.7	28.5
NOx	2.3	4.9
SO2	0.5	1.1
VOC	5.8	12.1

1.4 Emission factors (EFs) with multicone controlled — per applicaiton (4/7/95) and test report in source file, tested 7/90

Fuel data (AP-42, 1/95, A-5) — No lbs/hr fuel input data were recored even thought it is the requirement of permit #0240-0036 sec. 3.1. Therefore, the average fuel data from AP-42 are used to estimate EFs.

Heating value =	4,850	Btu/lb	
Moisture content	50	%	
PM:			
Emission rate(PM,avg)=	3.9	lb/hr	source test data
Emission Factor(PM,EF)=	1.11	lb/ton fuel used	EF, PM=3.9(lb/hr)/34(mmbut/hr)*4,500(but/lb)*2000(lb/ton)/1E+6(btu/mmbtu)
CO:			
Emission rate(CO,avg)=	5.3	lb/hr	source test data
Emission Factor(CO,EF)=	1.51	lb/ton fuel used	EF, PM=5.3(lb/hr)/34(mmbut/hr)*4,500(but/lb)*2000(lb/ton)/1E+6(btu/mmbtu)
NOx(EF=:	3.6	lb/ton fuel used	AP-42, 1/95 T1.6-2 & foot note "c"
SO2(EF)=	0.075	lb/ton fuel used	AP-42, 1/95 T1.6-2
VOC(EF)=	0.22	lb/ton fuel used	

1.5 Combustion rate (ton/hr)

Max. hourly =	2.8	ton/hr	Per application combustion rate, received 4/7/95 and source test
Max. annually =	23520	ton/yr	per application, 7day*24hr*52wk
Nor. annually =	19600	ton/yr	Nor = Max./1.2
Max. hourly =	3.51	ton/hr	per assumed fuel data and source test
Max. annually =	29443.30	ton/yr	t/h=20,000(lb steam/hr)*(1.7e+3(btu/lb steam)/((4,500+5200)/2)(btu/lb)/2000(lb/ton)
Nor. annually =	24536.08	ton/yr	Nor = Max./1.2

1.6 Emissions

	lb/hr	t/y,max.	t/y,nor.	Per application
PM	3.12	13.08	10.90	emission (lb/hr) = EF(lb/ton fuel)*(ton fuel/hr)
PM-10	3.12	13.08	10.90	emission (t/y) = EF(lb/ton fuel)*(ton fuel/yr)/2000(lb/ton)
CO	4.23	17.78	14.82	Nor = Max./1.2
NOx	10.08	42.34	35.28	
SO2	0.21	0.88	0.74	
VOC	0.62	2.59	2.16	

Table B-2

	lb/hr	t/y,max.	t/y,nor.	per assumption
PM	3.90	16.38	13.65	emission (lb/hr) = EF(lb/ton fuel)*(ton fuel/hr)
PM-10	3.90	16.38	13.65	emission (t/y) = EF(lb/ton fuel)*(ton fuel/yr)/2000(lb/ton)
CO	5.30	22.26	18.55	Nor = Max./1.2
NOx	12.62	53.00	44.16	
SO2	0.26	1.10	0.92	
VOC	0.77	3.24	2.70	

2. STANDBY DIESEL BOILER

2.1 Fuel data

Heating value =	140,000	btu/gal	AP-42, 1/95, A-5
Sulfur content =	0.5	%	IDAPA 16.01.01.728

2.2 Boiler design capacity

10,000 lb steam/hr=	17	MM BTU/hr	(1.7E+03 BUT/hr)/(1 lb steam/hr)*(10,000 lb steam/hr)/1e+06=17 MM BTU/hr

2.3 Emission factors (EFs)

	(lb/10^3gal)	
PM	2	AP-42, 1/95, T1.3-2
PM10	2	
CO	5	
NOx	20	
SO2	72	
VOC	0.2	

*2.4 Combustion rate

*Max. hourly =	89	gal/hr	Per application combustion rate, received 4/7/95
Max. annually =	777504	gal/yr	Max. gal/yr = Max. 89 (gal/hr)*7day*24hr*52wk
*Nor. annually =	647920	ton/yr	Nor = Max./1.2

2.5 Emissions

	lb/hr	t/y,max.	t/y,nor.	
PM	0.18	0.78	0.65	emission (lb/hr) = EF(lb/1e+3 gal)*(gal/hr)/1000(gal/1e+3 gal)
PM-10	0.18	0.78	0.65	emission (t/y) = EF(lb/1E+3)*(gal/yr)/2000(lb/ton)/1000 (gal/1e+3 gal)
CO	0.45	1.94	1.62	Nor = Max./1.2
NOx	1.78	7.78	6.48	
SO2	6.41	27.99	23.33	
VOC	0.02	0.08	0.06	

Table B-3 Date: 21-May-96

Cedar Pine Veneer, Inc.
ESTIMATING EMISSIONS (PM10) FORM PROCESS AND MANUFACTURING OPERATIONS

1. ASSUMPTIONS:
Moisture content of log: 50%
Moisture content of veneer: 15%
Max. = 1.2*Nor.

2. CONVERSION FACTORS
1 ton of log = 1 BD tons log/(1-moisture content percetage of log)
1 MBF (thousand board feet) = 4.8 tons of log (Pinehurst PM10 SIP,2/5/92,B-45)

3. PM10 EMISSIONS
3.1 OUTDOOR ACTIVITIES
Production throughput = 12.6 MMBF of log/yr
coefficient = 1
Production throughput*coeff. = 12.6 MMBF of log/yr

Process	Hourly Production max*co.	unit	Max. Rate	Operating hour hr	Production hourly ton/hr	Rate Max. annually ton/yr	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	Remark note is same as that for PM unless spcified here
P1 Deck saw	15.75	MBF	15.75	800	75.60	60480	0.2	lb/ton	15.12	6.05	EPA AIRS (3/90) SCC 3-07-008-02
p2 Ring debarker	3.15	MBF	3.15	4000	15.12	60480	0.011	lb/ton	0.17	0.33	EPA AIRS (3/90) SCC 3-07-008-01
p3 Chop saw #1	3.15	MBF	3.15	4000	15.12	60480	0.2	lb/ton	3.02	6.05	same as p1
p4 Rosser head debarker	1.20	MBF	1.20	4000	5.76	23040	0.011	lb/ton	0.06	0.13	same as p2
p5 Chop saw #2	7.05	BDT	7.05	4000	14.11	56438	0.2	lb/ton	2.82	5.64	same as p1
p7 Chipper #1	7.22	BDT*	7.22	4000	14.44	57758	0.1	lb/ton	1.44	2.89	EF(PM)*(1- 50%)=EF(PM10)
p8 Chipper #2	0.14	BDT	0.14	4000	0.29	1152	0.1	lb/ton	0.03	0.06	same as Chipper #1
p9 Screen out	7.22	BDT*	7.22	4000	14.44	57758	0.071	lb/ton	1.03	2.05	PM10
p11 Falcon hog	2.12	BDT	2.12	4000	4.23	16920	0.1	lb/ton	0.42	0.85	same as Chipper #1
p17 Knife hog(Veneer)	0.14	BDT	0.14	8400	0.18	1369	0.1	lb/ton	0.02	0.07	same as Chipper #1
SUM									24.13	24.11	

3.2 INDOOR ACTIVITIES
Assume indoor control efficiency = 90%

Process	Hourly Production max*co.	unit	Max. Rate	Operating hour hr	Production hourly ton/hr	Rate Max. annually ton/yr	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	Remark
P6 Sawmill	7.05	BDT	7.05	4000	14.11	56438	0.2	lb/ton	2.54	5.08	EPA AIRS (3/90) SCC 3-07-008-02
p14 Slicer									negligible		
p16 clip/grade				8760	2.60		0.2	lb/ton	0.05	0.23	
SUM									2.59	5.31	

3.3 CYCLONES
ACFM: actualy cubit feet per minute. Here assume acf=scf.

Process	Hourly Production	unit	Max. Rate	Operating hour hr	Stack exit Gas flow r acfm	Stack exit temp.	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	Remark
p10 Fine Blower Cyclone	1.2	BDT	1.2	4000	2300	ambient	0.03	gr/scf	0.24	0.47	emission(PM10)=(0.8/2.0)*emission(PM) EPA AIRS (3/90) SCC 3-07-008-08
P18 Glowbe saw cyclone	NA	BDT		800	1000	ambient	0.03	gr/scf	0.10	0.04	
SUM									0.34	0.51	

3.4 STEAM CHAMBERS AND THE STEAM DRYER
Convertion factors
1 MBF, thousand board feet = 1.75 tons of rought green lumber (Pinehurst PM10 SIP,2/5/92,B-45)
1 MBF, thousand board feet = 8/3 MSF, thousand 3/8" square feet

Process	Hourly Production max.*co.	unit	Max. Rate	Operating hour hr	Production hourly ton/hr	Rate Max. annually ton/yr	Emission Factors	unit	Emissions hourly lb/hr	Annually annually ton/yr	
P12 Steam chamber #1	1.26	MBF	1.26	8400	2.21	18592	1.59	lb/MBF	2.01	8.45	EF(PM10)=EF(PM)
P13 Steam chamber #2	1.26	MBF	1.26	8400	2.21	18592	1.59	lb/MBF	2.01	8.45	same as p12
p15 Steam dryer	0.95	MSF	0.95	8400			0.8	lb/MSF	0.76	3.19	EF(PM10)
	2.53	MBF	2.53	8400	4.43	37184					
SUM									4.78	20.08	

PM emissions from process and manufacturing operation are:

Total(PM10) =	lb/hr	Ton/yr
	31.84	50.01

Table B-4 Date: 21-May-98

Ceda Pine Veneer, Inc.

ESTIMATING EMISSIONS (PM10) FROM SOLID MATERIAL TRANSPORT, HANDLING, AND STORAGE

1. ASSUMPTION

Moisture content of green wood = 50%

Moisture content of dry wood = 15%

2. PM10 EMISSIONS

BDT: Bon dry ton. unit conversion: ton = BD ton/(1-moisture content percentage of log)

2.1 STORAGE PILES

Process	Hourly productin max*co.	unit	Max. Rate	Operating hour hr	Production Rate Max. hourly ton/hr	annually ton/yr	Emission Factors PM	unit	Emissions PM hourly lb/hr	annually ton/yr	Remark same as PM estimation unless specified here
											assume:EF(hog fuel)= 20% EF of sawdust
*ST2 Sawdust pile	1.09	BDT	1.09	400	2.16	872	0.36	lb/ton	0.78	0.16	EPA AIRS(3/90) SCC 3-07-008-03
*ST3 Fuel house	2.56	BDT	2.56	4000	5.12	20480	0.072	lb/ton	0.18	0.37	contl eff.of halt enclsu 50%
*ST4 Storage pile	7.50	BDT	7.5	400	15.00	6000	0.072	lb/ton	1.08	0.22	
*ST5 Bin bunker no ba	0.29	BDT	0.29	4000	0.34	1365	0.072	lb/ton	0.02	0.05	
*ST6 Ash bunker	0.29	BDT	0.29	700	0.29	203	0.36	lb/ton	0.10	0.04	
* inconsistency of two app. (7/17/95 & 4/7/95)											
SUM									2.18	0.83	

2.2 BINS

Process	Hourly Production	unit	Max. Rate	Operating hour hr	Production Rate Max. hourly ton/hr	annually ton/yr	Emission Factors	unit	Emissions (PM) hourly lb/hr	annually ton/yr	
ST1 Bin(chip surge)	7.22	BDT*	7.22	2000	14.44	28879	0.58	lb/ton	8.37	8.37	EPA AIRS(3/90) SCC 3-07-030-01
							1.2	lb/ton	17.33	17.33	EPA AIRS(3/90) SCC 3-07-030-02
ST7 Chip bin	0.15	BDT*	0.15	4000	0.18	706	0.58	lb/ton	0.10	0.20	
							1.2	lb/ton	0.21	0.42	
SUM									26.02	26.33	

2.3 TRANSFER/CONVEYOR

Wind speed =	9	mph	(per application 7/19/95)
Moisture content =	50%		(per application 7/19/95)
k(PM) =	1		(AP-42, 1/95, 13.2.4)
K (<30 um) =	0.74		(AP-42, 1/95, 13.2.4)
K (<10 um) =	0.35		(AP-42, 1/95, 13.2.4)
Production througput =			12.6 MMBF of log/yr
coefficient =	1		
Production throughput*coeff. =			12.6 MMBF of log/yr

Process	Hourly Production Max. Rate	unit	Operating hour hr	Production Rate Max. hourly ton/hr	annually ton/yr	Drop points	Emission (PM) Factors	unit	Emissions (PM) hourly lb/hr	annually ton/yr
TR1 infeed deck	3.15	MBF	4000	15.12	60480	NA	0.02	lb/ton	0.00	0.00
TR2 chain conveyor	0.02	BDT	4000	0.03	120	1	0.02	lb/ton	0.00	0.00
TR3 2 vib.2 belt conve	2.12	BDT	4000	4.23	16920	6	0.02	lb/ton	0.43	0.85
TR4 2 chain conveyor	2.12	BDT	4000	4.23	16920	1	0.02	lb/ton	0.07	0.14
TR7 veit conveyore	0.23	BDT	4000	0.47	1862	1	0.02	lb/ton	0.01	0.02
TR5 front end loader	1.88	BDT	1600	3.75	6000	2	0.02	lb/ton	0.13	0.10
TR6 front end loader	1.09	BDT	400	2.18	871	2	0.02	lb/ton	0.07	0.01
TR 8 front end bucket	1.18	BDT	1000	2.36	2358	2	0.02	lb/ton	0.08	0.04
TR 9 front end bucket	0.60	BDT	1000	1.20	1200	2	0.02	lb/ton	0.04	0.02
SUM									0.82	1.18

without count pile emissions

	PM lb/hr	t/y
TOTAL	26.84	27.51

APPENDIX C

02/07/96
14:47:48

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 95250 ***

Ceda Pine Veneer, Inc. Hog Fuel Boiler (NOx)

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	1.35000
STACK HEIGHT (M)	=	12.1900
STK INSIDE DIAM (M)	=	.6400
STK EXIT VELOCITY (M/S)	=	22.3945
STK GAS EXIT TEMP (K)	=	436.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	13.1100
MIN HORIZ BLDG DIM (M)	=	13.7200
MAX HORIZ BLDG DIM (M)	=	18.2900

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 15265.000 (ACFM)

BUOY. FLUX = 7.375 M**4/S**3; MOM. FLUX = 34.511 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	650.1	6	4.0	4.5	10000.0	15.84	4.07	9.76	SS
200.	198.3	5	5.0	5.4	10000.0	18.67	11.63	13.65	SS
300.	125.2	4	5.0	5.2	1600.0	17.86	22.61	17.44	SS
400.	96.96	4	4.5	4.6	1440.0	19.68	29.45	20.01	SS
500.	78.79	4	4.0	4.1	1280.0	22.21	36.15	22.43	SS
600.	70.46	6	4.0	4.5	10000.0	26.46	21.24	15.78	SS
700.	66.53	6	4.0	4.5	10000.0	26.46	24.46	16.59	SS
800.	62.92	6	4.0	4.5	10000.0	26.46	27.63	17.38	SS
900.	59.56	6	4.0	4.5	10000.0	26.46	30.78	18.14	SS
1000.	56.42	6	4.0	4.5	10000.0	26.46	33.88	18.89	SS
1100.	53.50	6	4.0	4.5	10000.0	26.46	36.96	19.62	SS
1200.	50.78	6	4.0	4.5	10000.0	26.46	40.01	20.34	SS
1300.	48.49	6	3.5	3.9	10000.0	28.26	43.04	20.62	SS
1400.	46.57	6	3.5	3.9	10000.0	28.26	46.05	21.32	SS
1500.	44.33	6	3.0	3.3	10000.0	30.57	49.03	21.50	SS
1600.	42.05	6	3.5	3.9	10000.0	28.26	51.99	21.90	SS
1700.	40.58	6	3.0	3.3	10000.0	30.57	54.94	22.07	SS
1800.	39.40	6	3.0	3.3	10000.0	30.57	57.87	22.64	SS
1900.	38.23	6	3.0	3.3	10000.0	30.57	60.78	23.20	SS
2000.	37.10	6	3.0	3.3	10000.0	30.57	63.68	23.75	SS
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:									
40.	1331.	6	4.0	4.5	10000.0	12.94	1.78	6.84	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST	CONC	U10M	USTK	MIX HT	PLUME	SIGMA	SIGMA

(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z (M)	DWASH
122.	515.6	6	4.0	4.5	10000.0	17.21	4.89	10.84	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	1351.	CONC (UG/M**3)	=	1212.
CRIT WS @10M (M/S)	=	5.34	CRIT WS @10M (M/S)	=	7.94
CRIT WS @ HS (M/S)	=	5.56	CRIT WS @ HS (M/S)	=	8.26
DILUTION WS (M/S)	=	2.78	DILUTION WS (M/S)	=	4.13
CAVITY HT (M)	=	18.49	CAVITY HT (M)	=	16.53
CAVITY LENGTH (M)	=	24.86	CAVITY LENGTH (M)	=	15.94
ALONGWIND DIM (M)	=	13.72	ALONGWIND DIM (M)	=	18.29

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)	
SIMPLE TERRAIN	1331.	40.	0.	
BLDG. CAVITY-1	1351.	25.	--	(DIST = CAVITY LENGTH)
BLDG. CAVITY-2	1212.	16.	--	(DIST = CAVITY LENGTH)

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Conversion Factor: 0.08 (convert hourly concentration to annually one);
Annually Background Concentration: 40 UG/M^3;
NAAQs Standard for NOx: 100 UG/M^3;
At facility's boundary, worst case:
Annually concentration (UG/M^3) = 515.6(UG/M^3) * 0.08 + 40 (UG/M^3) = 81.2 UG/M^3)
It is 81% of the standard.
The facility shall be able to run its Hog Fuel Boiler at the adjusted permit limit for NO_x.

APPENDIX D

ABBREVIATED AIRS DATA ENTRY SHEET

Name of Facility: Ceda Pine Veneer, Inc 2/2

AIRS/Permit #: 017 - 00036

Permit Issue Date:

*Source/Emissions Unit Name (25 spcs) (Please use name as indicated in permit)	SCC # (8 digit #)	Air Program (SIP/NESHAP/ NSPS/PSD)
* P18 Globe Saw) Cyclone (030)	30700208	SIP
(= #1 Cyclone)		"
ST1 Bin Chip Surge	30700899	"
ST2 Sawdust Pile	30700203	"
ST3 Fuel House (it's a hill covered pile.) (020)	30700899	"
		"
ST4 Storage Pile (Misc Fuel)	30700649	"
ST5 Bin Burner (no cyclone)	"	"
ST6 Ash Bunker	"	"
ST7 Chip Bin	"	"
TR1 Infeed Deck	"	"
TR2 Chain Conveyor (Burner)	30700899	"
TR3 Vibrating Conveyor (Misc Fuel)		"
TR4 Chain Conveyor (Hog Fuel)		"
TR5 Front End Loader (Hog Fuel)	"	"
TR6 Front End Loader (Sawdust)	30700203	"
TR7 Belt Conveyer (Train Ends)	"	"
TR8 Front End Bucket (Misc Fuels)	30700649	"
TR9 Front End Loader (Chips)	30700201	"
(= Chip Loading 020)		"
Plant Road Fugitive	30788801	"

RETURN TO PAT RAYNE

AIRS-PT.LST (9/95)

ABBREVIATED AIRS DATA ENTRY SHEET

Name of Facility: Cedar Pine Veneer, Inc. P 1/2

AIRS/Permit #: 017 - 00036

Permit Issue Date:

*Source/Emissions Unit Name (25 spcs) (Please use name as indicated in permit)	SCC # (8 digit #)	Air Program (SIP/NESHAP/ NSPS/PSD)
* B1 Hog Fuel Boiler (010)	10200905	SIP
S2 Standby Diesel Boiler	10100501	"
P1 Deck Saw (060)	30700802	"
P2 Ring Debarker (050)	30700201	"
P3 Chop Saw #1	30700202	"
P4 Passer Head Debarker (050)	30700201	"
D5 Chop Saw #2	30700202	"
D6 Sawmill (indoor)	30700299	"
D7 Chipper #1	30700220	"
P8 Chipper #2	30700220	"
D9 Screen out	30700820	"
P10 Fines Blender Cyclone (090)	30700302	"
(= Chip Screen Cyclone)		"
D11 Falcon Hog	30700299	"
D12 Steam Chamber #1	30700799	"
P13 Steam Chamber #2	"	"
D14 Slicer (indoor)	"	"
P15 Steam Veneer Dryer (gas)	30700702	"
P16 Chip/Fines Truck Loadout	30700799	"
D17 Knife Hog	"	"

RETURN TO PAT RAYNE

AIRS-PT.LST (9/95)

August 5, 1996

MEMORANDUM

TO: Brian R. Monson, Chief
Operating Permits Bureau
Permits and Enforcement

FROM: Yihong H. Chen, Air Quality Engineer YC
Operating Permits Bureau
Bill Rogers, Air Quality Engineer BR
Construction Permits Bureau

THROUGH: Susan J. Richards, Air Quality Permits Manager
Operating Permits Bureau

SUBJECT: Technical Analysis for Tier II Operating Permit (#017-00036)
Ceda-Pine Veneer, Inc., Samuels, Idaho (Part II - Confidential)

PROJECT DESCRIPTION

NOTE: Due to the facility's request, the following information is treated as confidential, unless a number of the public requests that DEQ make a legal determination on whether the information does, in fact, qualify for the confidential treatment.

Point sources:

(3) P1 Deck Saw

Equipment Specifications:

Manufacturing:	L&M
Model:	MT-1
Design Capacity:	Not Available

(4) P2 Ring Debarker

Equipment Specifications:

Manufacturing:	Nicholson
Model:	A2-27
Design Capacity:	Not Available

(5) P3 Chop Saw

Equipment Specifications:

Manufacturing:	Shop Built
Design Capacity:	Not Available

(6) P4 Rosser Head Debarker

Equipment Specifications:

Manufacturing:	Morbark
Model:	C-24
Design Capacity:	Not Available

(7) P5 Chop Saw

Equipment Specifications:

Manufacturing:	Shop Built
Design Capacity:	Not Available

(8) P7 Chipper #1

Equipment Specifications:

Manufacturing:	Cmne
Model:	48"
Design Capacity:	Not Available

(9) P8 Chipper #2

Equipment Specifications:

Manufacturing:	Cmne
Model:	36"
Design Capacity:	Not Available

(10) P9 Screen Out

Equipment Specifications:

Manufacturing:	Morbark
Model:	Black Clawson
Design Capacity:	Not Available

(11) P10 Fines Blower Cyclone

Equipment Specifications:

Manufacturing:	HJ Burns
Model:	#30

(12) P11 Falcon Hog

Equipment Specifications:

Manufacturing:	Falcon Hog
Model:	24 x 36
Design Capacity:	Not Available

(13) P12 & P13 Steam Chamber #1 & #2

Equipment Specifications:

Manufacturing:	Shop Built
Design Capacity:	Not Available

Stack Design Specifications:

Height:	6.0 feet
Exit Diameter:	0.16 feet
Exit Gas Flow Rate:	Ambient
Exit Temperature:	160°F

(14) P15 Steam Dryer

Equipment Specifications:

Manufacturing:	James Dryer
Design Capacity:	#2
Design Capacity:	Not Available

Stack Design Specifications:

Height:	24 & 27 feet
Exit Diameter:	30 & 24 feet
Exit Gas Flow Rate:	7085 & 16495
Exit Temperature:	Ambient

(15) P17 Knife Hog

Equipment Specifications:

Manufacturing:	Peninsula Hog
Model:	30"
Design Capacity:	Not Available

(16) P18 Globe Saw Cyclone

Equipment Specifications:

Manufacturing:	Parott Mech
Model:	H25 Blower
Design Capacity:	Not Available

Response to Comments and Questions Submitted During a Public Comment Period on Ceda-Pine Veneer, Incorporated's Proposed Tier II Operating Permit (OP) #017-00036 for the Entire Facility

COMMENTS AND RESPONSES

Comment #1: Throughput Quantities

Our requested throughput quantities were not used in developing the permit. We request our original numbers be used to develop emission limits.

DEQ Response: **Based on DEQ's new policy (April 4, 1996), major source determinations for Title V may be based on PM-10 for particulate matter. This change makes it possible to use the facility's requested throughput while still being able to keep the facility at synthetic minor status. Therefore, DEQ has revised the final OP to reflect this comment.**

Comment #2: PAGE 4; 3.3.1 Hog Fuel Boiler Fuel Consumption

CPV requested 1.59 green tons/hr and 11,104 green tons/year (not 3.0 and 25,200, respectively).

DEQ Response: **To give the facility the maximum operational flexibility and still meet the emission limits of PTC #0240-0036, the fuel consumption rate of 19,600 green tons/yr is given in the revised permit and technical memorandum.**

Comment #3: 3.3.2 Standby Diesel Boiler

CPV requested 89 gallons/hr and 59,800 gallons/year (not 89 and 29,904, respectively).

Note: This is confusing because the boiler is used approximately 2 weeks per year. Please consider operating hours of 24/7/4 instead of 24/7/2. The gallons/year will then equal 59,800.

DEQ Response: **To give the facility the maximum operational flexibility and still meet the requirements of the Rules for the Control of Air Pollution in Idaho (Rules), a fuel consumption rate of 777,504 gallons per year is given in the revised permit and technical memorandum, even though 59,800 gallons per year is requested.**

Comment #4: 4.1 Operating Hours

DAILY recordkeeping will be an additional paperwork burden. We request the frequency be changed to monthly records.

DEQ Response: **This requirement has been deleted in the revised final OP.**

Comment #5 4.2 Fuel Consumption

Recording fuel consumption on an hourly basis is unrealistic. Rounding errors will occur (tons burned/hr), and cause discrepancies. We request fuel consumption records be recorded on a monthly basis. Hourly averages can be calculated using "operating" information collected for 4.1 above.

DEQ Response: **DEQ revised the final OP to reflect this comment. The monthly average fuel consumption rate (lb green ton/hr) records will be required rather than daily records.**

Comment #6: 4.4 Exceedences

We request thirty (30) days for written notification - instead of 15 days.

DEQ Response: **The timeframe in the permit is that required by IDAPA 16.01.01.135. (Rules), Excess Emissions Reports. Therefore, it cannot be changed.**

Comment #7: PAGE 6 AND 7; Confidentiality

Ceda-Pine Veneer still considers external equipment manufacturer names and models as confidential.

DEQ Response: **DEQ revised the final OP and technical memorandum to reflect this comment.**

Comment #8: PAGE 8; 3.1 Maximum Facility Throughput

2.20 thousand board feet is unacceptable and unclear where this log/hour limit was calculated from. This production type limit should not be used as a limit in the permit. The permit limits should be based on emission limits only. (There is a possibility that partially completed products may be sent to a different facility for final processing!).

DEQ Response: **DEQ revised the final OP to reflect this comment. The hourly limit 2.20 thousand board feet of log is deleted from final OP.**

Comments #9: 3.2 Maximum Throughput to Steam Dryer

Requested 6,640 million square feet (MSF) 3/8" per year, and .94857 MSF 3/8" per hour, (not 0.66 thousand SF 3/8" per hour).

DEQ Response: **DEQ revised the final OP to reflect this comment. 6,640 MSF per year at its equivalent 3/8" thickness is required in the final permit. The hourly throughput requirement has been deleted from the final OP.**

Comments #10: PAGE 9

3.3.1 Use of "environmentally save chemicals" - is probably meant to read "environmentally safe chemicals."

DEQ Response: **The "environmentally save chemicals" has been changed to "Environmentally safe chemicals" in the final OP.**

Comments #11: 4.1 Facility Log Throughput

Once again, daily recordkeeping is burdensome. We request monthly logs.

DEQ Response: **DEQ revised the final OP to reflect this comment. The Permittee will be required to record the monthly and annual throughput of log by the final OP.**

Comments #12: 4.2 Veneer Throughput

Same request as 4.1 above.

DEQ Response: **DEQ revised the final OP to reflect this comment. The Permittee will be required to record the monthly and annual throughput of veneer by the final OP.**

Comments #13 PAGE 10; 4.3 Fugitive Control Monitoring

Request that this be omitted. Fugitive dust control is basically water - and is unnecessary to record on a daily basis.

DEQ Response: **DEQ revised the final OP to reflect this comment. This requirement is deleted from the final OP.**

Comments #14: Again, we ask for thirty (30) days written notification.

DEQ Response: **The timeframe in the permit is that required by IDAPA 16.01.01.135. (Rules), Excess Emissions Reports. Therefore, cannot be changed.**

Comments #15: We request justification for numbers provided. They do not correspond to our calculations or the numbers we provided.

DEQ Response: **DEQ revised the final OP to reflect this comment. Please refer to the Technical Memorandum, Appendix B, and to DEQ response to Comment #1.**

Comments #16: Paragraph 3.3 Page 4, the method for monitoring the fuel feed rate to the hog fuel boiler needs to be clarified. Most wood fired boilers do not have any direct method, such as a weight belt, to measure fuel feed. If estimating the fuel consumption is acceptable the permit should state it.

DEQ Response: **DEQ revised the final OP to reflect this comment. Records of estimated monthly and annual fuel consumption are required in the final OP.**

Comments #17: Paragraph 3.1 and 3.2 Page 8, when the unit is less than one million it should be written out. Instead of 2.20 thousand board feet of log per hour, 2200 board feet of log per hour. Also, is this log scale or lumber scale? Recording log scale input and veneer production on an hourly basis is a lot of recording, maybe shift basis is adequate.

DEQ Response: **DEQ revised the final OP to reflect this comment. The scale used here is a log scale. Monthly and annual monitoring and recordkeeping of throughput and operating hours is requested.**

Comments #18: Paragraph 4.1 and 4.2 Page 9, same comments as above, hourly monitoring of production seems to be overkill.

DEQ Response: **Please refer to Comments #4 and #5 and the corresponding DEQ response.**

Comments #19: I think that the permit should require an annual source test on the wood fired boiler emissions to demonstrate compliance with the PM and PM10 limits. This test should limit boiler production in the same manor as in PTC's, not become the maximum operating rate as required in Paragraph I, Page 13.

DEQ Response: **Within the life time of the OP, one source test is required at the maximum capacity of the emissions unit for the following reasons: 1) the facility failed its first start-up source test; 2) barely passed the second source test by adding a fly ash separator screen; 3) it has been six years since the last test, the emissions may change due to wear and tear of equipment; and 4) the heating value of the fuel used in boiler was relatively low based on recent fuel analysis (February 1995).**